Journal of the Amateur Photographic Society of Madras.

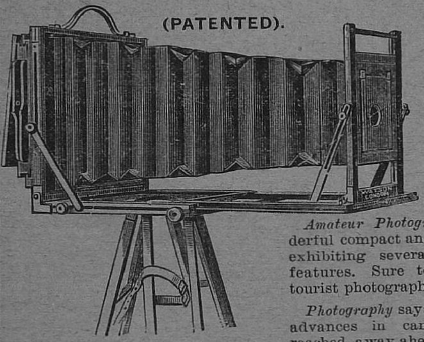
Vol. 4.—No. 9. | Price As. 8.

August, 1898.

HIGHEST CLASS PHOTOGRAPHIC REQUISITES.

WATSON'S ACME TOURIST'S CAMERAS AND RECTILINEAR LENSES.

(PATENTED).



Press Opinions.

British Journal of Photography says:—"It folds into a smaller compass, and is lighter and more portable than any pattern we have yet seen."

Amateur Photographer says:—"A wonderful compact and fairy-like instrument exhibiting several new and important features. Sure to be a favourite with tourist photographers."

Photography says:—"One of the greatest advances in camera construction yet reached, away ahead of anything else."

Sizes and Prices.	$6\frac{1}{2} \times 4\frac{3}{4}$	$7\frac{1}{2} \times 5$	$8\frac{1}{2} \times 6\frac{1}{2}$	10 x 8	12 x 10	15 x 12
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Camera and three double slides	9 12 0	10 0 0	12 5 0	14 0 0	16 12 6	21 0 0
Rapid Rectilinear Lens with Iris diaphragm	4 0 0	4 10 0	5 0 0	6 15 0	8 15 0	11 10 0
Solid Leather Travelling Case with spring lock ...	1 15 0	1 15 0	2 2 0	2 10 0	3 0 0	3 15 0
Rotating Turntable in base, and Tripod Stand ...	2 2 0	2 2 0	2 2 0	2 10 0	2 15 0	3 3 0
	17 9 0	18 7 0	21 9 0	25 15 0	31 2 6	39 8 0

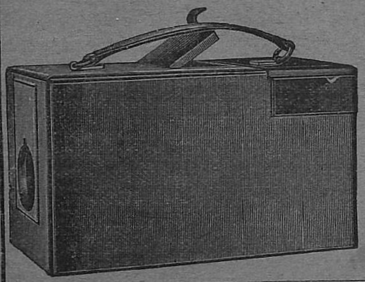
Aluminium Fittings—Reduced Prices.

$\frac{1}{2}$-plate and $7\frac{1}{2} \times 5$	$8\frac{1}{2} \times 6\frac{1}{2}$	10 x 8	12 x 10	15 x 12
£2 10 0	£3 0 0	£3 10 0	£4 0 0	£4 10 0

Brass binding extra—recommended for India.

£1 10 0	£1 15 0	£2 0 0	£2 10 0	£3 0 0

THE VAN NECK HAND CAMERA.



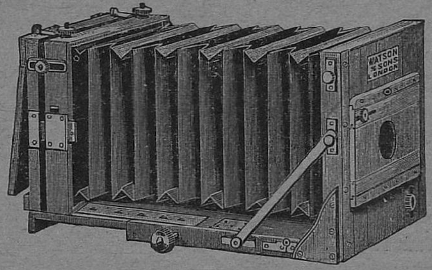
With Focussing Finder showing full size objects.

$\frac{1}{4}$ plate size for 12 Plates £10 10 0
or for 24 Films £11 5 0

ALSO MADE IN
LANTERN SIZE ($3\frac{1}{4}$ sq.)

Fitted with Eastman Roll Holder carrying 70 exposers, £10 0 0

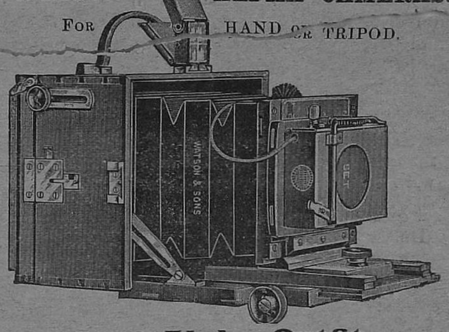
WATSON'S PREMIER CAMERA.



For Studio and Field. Made with Square Bellows and Reversing Back.
PRICES, with 3 Double Slides:
$\frac{1}{2}$ plate, £9 12 Whole pl., £12 5 10 x 8, £14 0 12 x 10, £16 12 6
A Repeating Back can be fitted to this Camera for Studio purposes:
$\frac{1}{2}$ plate, £2 0 Whole pl., £2 10 10 x 8, £3 3 12 x 10, £3 10

WATSON'S ALPHA CAMERAS.

FOR HAND OR TRIPOD.



No. 2 Alpha Outfit.

Sizes	$\frac{1}{4}$ plate.	5 x 4	$\frac{1}{2}$ plate.
	£ s. d.	£ s. d.	£ s. d.
Camera with double action front, double extending base, swing back, and rackwork focussing adjustment, and three double dark slides	6 10 6	7 1 6	8 5 6
Rapid Rectilinear Lens with Iris Diaphragm ...	2 17 6	3 2 6	4 0 0
Exposure Shutter	1 0 0	1 0 0	1 0 0
Finder	0 10 6	0 10 6	0 10 6
Best Solid Leather Travelling Case, with Lock and Key.	1 2 0	1 5 0	1 10 0
	12 0 6	12 19 6	15 6 0

Made in box form, of sufficient size to contain, when closed, the Bellows, Front, Lens, Shutter and Finder. The front of the box falls down, and is held rigid and horizontal by a strut; the Camera is then extended along it to focus, a scale of distances is marked, but a ground glass is provided and can be used if desired.

Customers' own Lenses and Slides can also be fitted.

A discount of 5 per cent. from all above-quoted prices is allowed for Cash with Order.

Fully illustrated and descriptive Catalogue of Photographic Apparatus and Accessories sent post free on application to

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Opticians to H. M. Govt., Sole Address: 313, High Holborn LONDON.

Factories:—9, 10, 11, 16 & 17, F[illegible]woods Rents, W. C. *Established 1837.*

Awarded 38 Medals for excellence of instruments at the leading I[illegible]ational Exhibitions of the world, including Chicago, 1893, five medals; Kimberley, 1892, three medals; Calcutta Photo. Society's Exhibition, 1889; Paris Uni[illegible]sal E[illegible]ibition, 1889, two gold medals; and at London, Melbourne, &c. Nine times placed alone at Exhibitions, recei[illegible] award than any competitor.

12th issue.

Spencer & Co. (Ld.)

PHOTOGRAPHERS' REQUISITES.

Madras, Bangalore and Ootacamund.

A B C Developer.

This is a new single solution developer prepared by ourselves after years of experiments and tests, and now we can confidently place it before photographers with a feeling that it will give entire satisfaction. For density and perfection in bringing up detail it cannot be excelled, and its perfect simplicity in manipulation has induced us to give it the above title.

In concentrated form 6 oz. bottle to prepare 96 oz. developer, Rs. **1-8.**

Advantages:—

No staining or fogging.
Will keep any length of time.
Can be used over and over till strength exhausted.
Can be used on any class of plates.

Developers.

			Rs.	A.
Pyrogallic acid	... ...	per 1 oz. bot. ...	1	2
Hydrokinone	... ...	„ 1 ...	1	0
Metol	... ...	„ 1 „ ...	2	12
Amidol	... ...	„ 1 „ ...	2	4
Rodinol	... ...	„ 3 „ ...	1	10

Border Negatives.

A large range of floral negatives of natural flowers for making charming and artistic pictures—with oval and fancy openings.

Best quality celluloid,	$\frac{1}{2}$ plate size,	each ...	2	0
Do. do.	$\frac{1}{4}$ „	„ ...	1	0

New Photo Mounts.

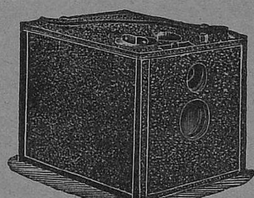
		Per 100 Rs.	A.	Per doz. Rs.	A.
Cream enamelled, gilt edge, C-D-V.	...	2	4	0	5
Do. do. Cab.	...	5	8	0	12
Do. chocolate line, C-D-V.	...	1	2	0	3
Do. do. Cab.	...	2	12	0	6
Plate sunk, grey, $\frac{1}{4}$ plate view size.		5	8	0	12
Do. do. $\frac{1}{2}$ do.	...	6	8	1	0
Do. do. $\frac{1}{1}$ do.	...	11	8	1	10
Do. granulated, $\frac{1}{4}$ do.	...	6	8	1	0
Do. do. $\frac{1}{2}$ do.	...	7	8	1	2
Do. do. $\frac{1}{1}$ do.	...	12	0	1	12
Grey classic, slip in, $\frac{1}{4}$ do.	...	——		1	2
Do. do. $\frac{1}{2}$ do.	...	——		2	0
White enamelled, Oxford lined, $\frac{1}{4}$ plate	...	2	4	0	6
Do. do. $\frac{1}{2}$ „	...	3	0	0	8
Do. do. $\frac{1}{1}$ „	...	4	0	0	10
Olive green enamelled, gilt bevelled edge, C-D-V.	...	——		0	7
Do. do. Cab.	...	——		0	14

lbums.

For unmounted Photographs.

					Rs.	A.
Slip in pattern, to hold	24	quarter plate	prints.		1	8
Do. do.	48	„	„	...	2	4
Do. do.	24	half	„	...	2	0
Do. do.	48	„	„	...	3	4
Paste Down, do.	24	quarter	„	...	1	4
Do. do.	48	„	„	...	2	2
Do. do.	24	half	„	...	1	12
Do. do.	48	„	„	...	3	4
Do. do.	24	full	„	...	2	12
Do. do.	48	„	„	...	5	0

Kodaks.



Eastman's Bull's eye No. 2	... ...	31	8
Extra spools for above	... ...	2	8

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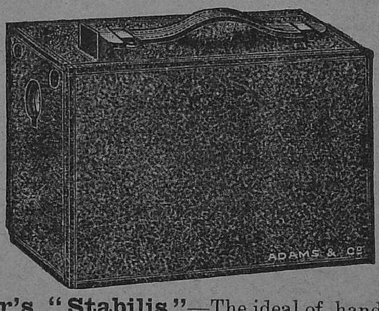

Spencer's "Stabilis"—The ideal of hand Cameras.

Fitted with best Landscape Lens	...	51	8
Do. **R/R.** do.	...	83	8

Bromide Paper.

Bromide **B** quality	$\frac{1}{4}$ size ...	0	10
Do.	$\frac{1}{2}$ „ ...	1	8
Do.	$\frac{1}{1}$ „ ...	2	8
Platino Bromide	$\frac{1}{4}$ „ ...	0	12
Do.	$\frac{1}{2}$ „ ...	1	12
Do.	$\frac{1}{1}$ „ ...	3	4

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Journal
Amateur Photographi

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CONTENTS.

	Page.
EDITORIAL NOTES—P. O. P.; Dr. Hiddemann, Aluminium, Photographic Collections, &c. ...	97
THE MADRAS FINE ARTS SOCIETY	99
NOTES BY THE WAY—Formalin, Ortol, Speed of Shutters, &c.	100
OUR HOME LETTER	101
P. O. P. AND HOT WEATHER	102
MEETING OF THE SOCIETY	103
EXTRACTS:—Mounting, The Photography of the Recent Total Solar Eclipse	103
MONTHLY COMPETITION	107
RULES FOR COMPETITIONS, &c.	108

EDITORIAL NOTES.

THE method of treating P. O. P. described by one of our members in another column has at least the merit of being heroic. We fear, however, that comparatively few will care to get up early enough to give it a fair trial and most will rather fall back on the more prosaic method of using ice. At the same time it is well to emphasize the fact that during the dry, hot weather the temperature of water can be very largely reduced by keeping it in porous

nothing can ... of warning regarding the use of water cooled by evaporation, or by the addition of ice, or by any other method—be careful that all your solutions are of approximately the same temperature, else frilling, blistering, and the other evils that gelatine films are heir to, will be much in evidence.

THE frontispiece of *Der Amateur-Photograph* for July is from a photograph taken by Dr. Hiddemann in imitation of oil paintings. The chief feature, apparently, is that it shows the structure of the canvass appearing through the picture. The plate is first exposed on a stretched piece of canvass and afterwards on the portrait or landscape which is required. If the two exposures are properly proportioned, the canvass will show much as it does in the photograph of an oil painting. To our mind the result is far from being specially pleasing, and we confess we cannot see why a photographer should wish to reproduce the less pleasing features of oil paintings.

We are told that Dr. Hiddemann is opposed to the regular method of retouching photo-

[illegible] has [illegible] effect seems [illegible] certain persons are very seriously affected by the smell—so much so that it is very unwise of them to use it at all. Other persons, we are equally aware, can use it with perfect safety.

WE have received from Messrs. Babajee Sakharam & Co., the well known photographic dealers of Bombay a reprint from *The Photographic Dealer* containing an account of an interview with Mr. Duckle, one of the members of the firm. Mr. Duckle gave an interesting account of the origin of the firm and of the method by which they had reached their present assured position. He attributed their success largely to the fact of their keeping a sufficiently wide range of apparatus to suit all pockets and to the care which they took to issue none but reliable materials. Stale stock he said, was never issued even if their supplies of fresh material had for any reason been delayed. There can be no doubt that, in this country especially, the importance of fresh paper and chemicals is of the very highest importance and any dealer who wishes to retain his customers must be prepared even to make large sacrifices to insure that all materials leaving his shop are fresh and good.

THOSE of our members who have aluminium fittings for their cameras may be glad to know of a very simple method of restoring the surface after it has got tarnished. Mr. Chatterton writing to the *Madras Mail* points out that finely powdered alum rubbed on with a dry cloth is a most efficient material for the purpose. Perhaps, however, what the photographer is most in need of is a thoroughly satisfactory dull black for use with aluminium mounts, and if Mr. Chatterton could give us this he would confer a benefit for which we should be most thankful. Some time ago we purchased a binocular mounted in aluminium and to render it less conspicuous we had it blackened by a secret French process which was supposed to be the most effective known. It has not, however, been able to resist the effects of the Madras climate and not only is the outer part covered with small white blisters but the glasses constantly require to be freed from small particles of the blacking which are always falling off from the inside. In the case of aluminium plate-holders the want of a good dull black which will not fall off and cause dust marks on the plates is a real desideratum.

AMATEUR photographers often seem to be in want of some definite object to which they can devote their attention in the intervals between photographing their friends babies, houses, and horses. No doubt the subjects which are proposed month by month by the Society offer a large choice of objects but what is wanted is something on which they can fall back at all times. It has often seemed to us that there is a wide scope for the amateur in making collections of pictures of natural objects which will have a permanent value. What particular branch is to be taken up must depend largely on the taste of the photographer but we might suggest that a collection of photographs of Indian trees would be both interesting and valuable. To make such a collection would occupy a long time and the selection of good specimens of the trees would involve care and a certain amount of knowledge of the subject all of which would add to the interest of the undertaking. For those who prefer smaller subjects a collection of photographs of

flowers might be more suitable. In making this quite a different class of difficulties will be met with, the overcoming of which will give the photographer the necessary inducement to use all his skill if he is to command success. Many other similar collections might be suggested but our object is not to produce a catalogue of these but to point out to those who are getting tired of what may be called general photography that their interests can be revived by specializing in some definite direction. This is the era of specialists and the man of universal tastes is being left more and more in the background.

OUR ILLUSTRATION.

THE pictures from home having not yet arrived we supply with this month's *Journal* a print by Messrs. Del Tufo & Co., from a negative by the President of the Society. Those familiar with the country round Kodaikanal will probably recognise the scene which is a little bit of the Peria Shola where Law's Ghaut crosses the stream below the Silver Cascade. We trust that before the next number of the *Journal* is issued a supply of illustrations, will have been received.

THE MADRAS FINE ARTS SOCIETY.

WE are glad to see that steps have been taken to resuscitate the Madras Fine Arts Society. This Society for many years did much to encourage artistic tastes in South India, and the annual exhibitions held by the Society showed that there was a not inconsiderable amount of artistic talent to be found throughout the presidency. In other parts of India and especially at Bombay, Poona, and Simla annual fine arts exhibitions are still held; but in Madras for several years past no attempt has been made to hold an exhibition. The cause is not far to seek. To make such an exhibition a success, it must be conducted by some one gifted with enthusiasm and with a considerable amount of time at his disposal. In Madras such a person is not easily to be found. Most of those who formerly took an active interest in the Fine Arts Society have left the country, and no younger men have been found willing to take up the necessary work. We believe, however, that it only requires a little trouble to find the right person to take up the work, and that when he is found there will be little difficulty in restoring the Society to its pristine vigour.

At the meeting, of which the minutes are given below a large provisional committee was appointed to initiate the work. The working committee must, of course, be a small one and should be composed of members elected for their power of working and not for show.

In the circular, calling the meeting, it was suggested that arrangements should be made for a combined exhibition of painting, photography, and art industries. All this must, of course, be left to the committee which will doubtless be appointed at the first meeting of the provisional committee, but we refer to it here that our members may have early notice that there is a strong probability that such an exhibition will be held and so may take such steps as are needful to insure the due representation of the Society at the exhibition.

There is another question which it seems, worth while raising and that is whether it might not be found possible in some way to combine the Photographic Society and the Fine Arts Society. One large society would probably have much more power to do good than two comparatively small societies. There are, doubtless, difficulties in the way of such a combination but it would be worth while to consider whether these difficulties are insuperable.

The following are the minutes of the meeting:—

At a meeting held at Rutland Gate, Nungumbakam, Madras, on Tuesday the 23rd of August, 1898, the following gentlemen were present, The Hon'ble Dr. Duncan, Mr. J. N. Atkinson, Mr. H. C. West, Mr. C. Michie Smith, Mr. G. S. T. Harris, Mr. H. K. Beauchamp and Mr. A. Chatterton. Letters were read from the Hon'ble Mr. H. M. Winterbotham, and Mr. Edgar Thurston, regretting their inability to attend and after some discussion, the following resolutions were adopted.

1. That the Madras Fine Arts Society be resuscitated with the following objects.

   a. The circulation of art journals among the members.

   b. The formation of a sketching club.

   c. The organization of yearly, or as may be otherwise deemed suitable, exhibitions of Fine Art and Art Industries.

   d. The provision of facilities for pursuing Art Studies in Madras.

2. That the following Gentlemen be asked to form a Provisional Committee.

THE HON. MR. A T. ARUNDEL.
J. N. ATKINSON, ESQ.
H. K. BEAUCHAMP, ESQ.
THE HON. MR. JUSTICE R. S. BENSON.
THE HON. DR. D. DUNCAN.
G. S. T. HARRIS, ESQ.
J. A. JONES, ESQ.
D. E. W. LEIGHTON, ESQ.
M. R. RY. T. NUMBERUMAL CHETTY AVERGAL.
REV. E. M. MACPHAIL.
RAJA SIR SAVALAI RAMASAWMY MUDELIAR.
MAJOR F. ROMILLY.
SURGEON MAJOR-GENERAL C. SIBTHORPE.
THE HON. MR. JUSTICE H. H. SHEPHARD.
THE HON. MR. JUSTICE S. SUBRAMANIA, AIYAR.
C. MICHIE SMITH, ESQ.
THE HON. MR. G. H. STUART.
EDGAR THURSTON, ESQ.
H. C. WEST, ESQ.
F. G. WILSON, ESQ.
THE HON. MR. H. M WINTERBOTHAM.
J. M. YOUNG, ESQ.

3. That endeavours be made to secure accommodation for the Society in the School of Art, Poonamallee Road.

NOTES BY THE WAY.

SOME considerable time ago we took trouble to show members of our Society how extremely useful formalin was in this country, especially during the hot weather and we showed how the use of it had no ill effect upon the films when they required intensification or reduction. The then editor of the *Journal*, however, seemed to have some personal objection to the use of formalin and took every opportunity of publishing extracts containing anything adverse to its use and we are afraid that in consequence of the editorial comments many of our members were afraid to use this particular hardener and suffered loss through trying such others as alum, &c.

The editor of the *British Journal of Photography* in a recent number, after remarking upon the use of alum and chrome alum in not too flattering a manner, proceeds to say "But the best remedy we have for "this—and indeed for all forms of softening of the "film—is *formalin*, for besides its hardening action, "its antiseptic influence helps to arrest any tendency "to putrefactive decomposition * * * We can recom- "mend no particular strength: we keep a ten per "cent. solution of the commercial formalin for general "disinfecting purposes, and of this we add sufficient to "the water in which the negatives are soaked, after "the bulk of the hypo is removed, to make its presence "*felt* rather than *smelt*, when a strong inhalation is "taken." We hope this opinion from one of the highest authorities in the photographic world will induce our members to use this most useful hardener.

Since writing the above we observe that in the following week's *British Journal* Mr. W. B. Bolton adds a few forcible remarks in favour of the use of formalin which he says he found acted perfectly in cases where even absolute alcohol had failed!

Another leading Artist, Mr. Val Prinsep, R. A., has been discoursing on the influence of photography on Art, but while acknowledging the debt that artists owe to photography as a mode of rendering truthfully the various aspects of nature, &c., he looks upon it apparently as a purely mechanical process and thinks we are tied down to our "beastly cameras and lens:" it would be extremely difficult, it seems to us, to take photographs without camera or lens!

What a treat it is to look through some of the photographic journals published in America, especially *Wilson's Magazine*, the *American Amateur Photographer* and the *Photographic Times.*

They are better printed, on better paper and the majority of the illustrations (of which a great lot appear in each number) are beautifully printed: not one English journal attempts to compete with them and it is very surprising how they can afford to issue photogravures, bromide prints, and such a number of beautiful half-tone pictures with every copy. *The British Journal of Photography* in a recent issue takes some of the American editors to task about their illustrations on the ground that some of the figure studies are of "partly and suggestively draped females:" this remark cannot apply to the American photographic journals mentioned above, but might be much more properly applied to some of the illustrations of female figures supplied so lavishly by a great number of the ordinary weekly illustrated papers published in London. In our opinion a perfectly nude figure would be much less suggestive and much more decent and artistic than some of the ladies in tights (and little else) who figure so frequently in some of the best illustrated English papers.

We have recently found that ortol, while it keeps perfectly in solution, does not keep well in its original ounce bottles, the powder becoming very dirty and dark: having a considerable stock of the material we have made up the lot into a stock solution and would recommend others to do the same in the following way:—

Take an ordinary 12 ounce clean bottle and pour into it the whole of an ounce of ortol, put about 10 ounces of distilled water on the powder and shake until all is dissolved, then add ½ ounce of metabisulphite of potash and shake until dissolved—fill up the bottle with distilled water, cork it with a good sound cork and let it rest for 24 hours, then filter the solution through thick filter paper into a clean 12 ounce bottle and well cork it.

When first dissolved the solution looks like liquid mud, but after resting for a day and filtering, the resulting stock solution turns out a bright pale yellow; we are at present using a solution of ortol made up in February last and it developes perfectly as at first.

This stock solution contains in round figures 36 grains of ortol in each ounce and 1½ drams of it will dilute to 4 ounces of mixed developer for bromide paper, for particulars of which see former remarks in this journal.

In our capacity as one of the judges for our Society's competitions, we continue to notice the want of care shown by our members in the trimming and mounting of the pictures they send in for exhibition and comparison. We have observed how prints, otherwise very beautifully treated from a technical point of view, are quite spoilt by the careless manner in which they are trimmed with unsquare edges or perhaps not trimmed at all, but mounted (on expensive cards) with rough and torn edges: a very little thought and care would obviate *this* trouble, while a reference to the remarks (reprinted in this month's *Journal*) made by Mr. Roland C. Whiting will show what are the suitable kinds and colours of mounts for various classes of prints.

It is very interesting to note the differences of opinion as to the most useful developer for gelatine plates: there was a discussion recently at the Photographic Club in London upon "modern developers" and the following is a summary of the various opinions:—

Mr. Williams showed a plate developed with ortol. It seemed to require a less lengthy exposure than others, and appeared good for instantaneous work. The advantages claimed were that it did not readily fog the plate or veil over the image. Mr. Drage was partial to rodinal for negative work. It seemed to produce a very fine deposit, and a good, clear, quick printing negative. He mentioned Mr. Teape's developer of rodinal and hydroquinone, which had the merit of being suitable for very short exposures. Mr. Drage had not been so successful with it, but thought a lot of rodinal. Mr. Mackie believed the rodinal of to-day differed considerably from that of early times, which produced a poor, thin negative. Mr. Welford found nothing came up to his standard pyro-soda developer. Mr. Bridge mentioned the fact that a professional who used pyro-soda always kept a bottle of metol near, and if the exposure was short, dipped a spoon into the latter and added a few grains to his standard developer, so getting increased gradation without any more density. Mr. Welford found the addition of hypo to nearly every developer he had tried it with was beneficial, giving more detail and a better printer. Mr. Sutton said it also arrested the tendency to fog possessed by metol. Added to metol and hydroquinone it gave a pyro-like negative. Mr. J. Brown said the quickest developer he ever used was hydroquinone and caustic barium, which gave a negative in less than two minutes. The chairman favoured pyro-ammonia or soda. Mr. Crofton described his experiment with hydroxylamine, which generated gas in the film and broke it up. He had not found any improvement by the use of glucose or baryta water which had been recommended. Mr. Drage found glycin as quick as any other, used with a proper quantity of alkali. It could be slowed also, and gave clear results. Mr. Welford asked whether there was a developer which produced a finished negative quicker than did pyro-ammonia, which took about a minute. Many of the new developers were quicker in starting, but took a long time for completion. He did not use sulphite. It was mentioned that with pyro-ammonia less sulphite was recommended than with any other. Mr. Welford named metol and hydroquinone as a good all-round developer for instantaneous work, lantern slides, and bromide paper. Mr. Muller said that citrate with rodinal gave enormous additional contrast with an over-exposed plate.

The above goes to show that there is no "best" developer, but that each one is good in its way and only wants experience to guide it in the right path.

Have any of our members tested the rapidity of their shutters and compared the actual results with those given by the manufacturers? We ask the question as we observe in one of our contemporaries an amateur complaining that the actual speed of his shutter was $\frac{1}{54}$th of a second, while according to the maker thereof the speed should have been $\frac{1}{60}$th of a second! It appears to us, after repeated exposures with many different shutters, that the above result is much closer to the maker's figures than we usually meet with.

And, lastly, cannot the Madras members of the Society manage to be a little more regular in their attendance at the monthly meetings?

The meetings in July and August consisted of the Honorary Secretary and three members, and the Honorary Secretary and two out of the same three members respectively; at the August meeting two more members arrived just as the meeting had broken up. It is discouraging to the Society's officials to find their efforts of no avail.

OUR HOME LETTER.

July 15th, 1898.

When English people meet they always begin by talking about the weather. Our English climate is so variable that it affords endless opportunity for discussion, so following the general fashion I am beginning my letter by saying that summer seems to have really set in at last. After a rainy spring which imperilled the fruit crop and disheartened many a landscape photographer, it is pleasant to be able to record day after day of beautiful, sunny weather with light so strong and actinic that one can easily be led into errors of over-exposure. Days like the present too find out weak points in camera, or shutter, and it is just as well when Helios is blazing down on us at the zenith of his power to carefully examine the inside of one's camera, the joints of one's slides, and also the blind of one's shutter, lest the light slipping in at one or more of these places should play havoc with our work.

The fine season fortunately has been coincident with our annual British gathering, the Convention, which took place last week at Glasgow. There were excursions, almost every day during the week, to Ayr and the Land of Burns, to Edinburgh, down the

Clyde, and to Loch Lomond, meetings in the evenings for papers and discussion, an annual dinner, and a small exhibition of pictures, supplemented by a number of trade exhibits. Next year the place of meeting is fixed for Gloucester.

Sundry amateur photographers seem to have been getting into trouble lately, because they have been unlucky enough to take photographs in which a fortress happened to be one of the objects. On the continent it is quite the thing to incarcerate a man for several days and deprive him of his camera for such an offence, but the latest development of military foolishness has taken place at Margate, on our own coast. If the photography of forts is such a fearful crime, how is it your contemporary, *The Journal of the Photographic Society of India,* is permitted to insert a picture of a fort as its frontispiece?

Turning to more practical matters it is interesting to learn that persulphate of ammonia is highly recommended for reducing, by Messrs. Lumière Bros., the well-known photographic experts. The reducing agents at present in use have a tendency to weaken the half-tones in any negative operated upon, because they act on the silver which forms the image by dissolving it gradually, beginning from the surface, and extending to the base of the gelatine emulsion. This is the case with a familiar reducer made by mixing potassium ferricyanide and sodium hyposulphite, but with ammonium persulphate on the contrary, the most opaque parts of the negative are acted upon preferentially, and half-tones are properly preserved, since the action takes place from the base of the emulsion to the surface, that is to say, in the inverse direction of all substances utilized hitherto. The chemical action which takes place is somewhat complicated. A small quantity of double silver salt is formed, which becomes diffused in the excess of the ammonium persulphate solution in which the negative is placed. This, in the presence of the soluble silver salt formed, tends to give reduced silver; but this inverse reaction is produced mainly on the outside of the gelatine emulsion, because it is there where the excess of ammonium persulphate necessary for reduction is found. In practice it has been found that ammonium persulphate acts best in a 5 per cent. solution. The hypo must be thoroughly eliminated from the negative by washing before reducing is attempted, and after reduction thorough washing must again be administered, or the reducing action will continue. It is suggested that over-reduction can be avoided by stopping the operation when the negative has not quite attained the degree of reduction desired, and by putting it immediately from the ammonium persulphate bath for a few minutes into a 10 per cent. solution of sodium sulphite, or sodium bi-sulphite, which has then no action on the silver in the negative.

A prospectus of the Royal Photographic Society's Exhibition has recently been issued. The exhibition takes place from September 26th to November 12th. The Judges are as follows:—Art Section; Harold, Baker, Lieut.-Colonel J. Gale, A. Horsley Hinton, J. B. B. Wellington, W. L. Wyllie, A. R. A.; Technical Section, T. Bolas, F.I.C., F.C.S., J. Bulbeck, Chapman Jones, F.I.C., F.C.S.

MATTHEW SURFACE.

P. O. P. AND HOT WEATHER.

BY A MEMBER.

FREQUENT complaints have been made regarding the working of P. O. P. in hot and trying climates, and various have been the remedies suggested for the purpose of overcoming the difficulties of the weather; but of such remedies, some are remedies only in theory, giving rise to a host of difficulties in practice, while others, though practical, involve the use of chemicals and substances not easily procurable even in large towns. The following method of treatment, which has been found, for the last three or four seasons, to work quite smoothly in the writer's hands, is set forth here in order that those who may happen to be unfortunately situated as regards climate, may give it a fair trial and record their experience in the pages of this journal.

The principal materials requisite for the successful working of the paper in hot weather are—a few large *earthenware* pots, some *alum*, and plenty of *well-water* of a *saline* taste. These are easily obtainable in every village and cost little—the earthenware pots costing from two to three annas each, the alum, about three annas a viss, and the well-water, nothing but the cooly to fetch it, if a servant is not at hand. Add to this the habit of early rising and finishing all operations except the final washing in *open air* and *before sun-rise.*

The *modus operandi* is as follows:—The pots are filled the previous evening with well-water and placed in the open air, preferably on a terrace, well exposed to the breezes of the sky. Early in the morning, before sun-rise, the prints are washed, alumed, and toned as usual conducting the operations in open air with the help of a lamp. The water exposed to the chill air of the night is sufficiently cooled not to soften the gelatine, and the salts dissolved in the water probably help further in making the gelatine hold on. As an additional precaution, it is better not to omit the alum bath, although this involves the additional trouble of washing before toning. The toning bath should be sufficiently strong in gold, half stronger than the quantity prescribed in the usual formulæ, as by so doing the toning operation is completed before the sulpho-cyanide or other ingredient in the toning bath has had sufficient time to soften the gelatine of the film. In case of the toning bath having been made previously and stored, it is better to cool it before use by pouring it into the toning dish and leaving it exposed for some time to the chill morning air. The fixing is done as usual and the final washing may be conducted after sun-rise, taking care, of course, to use, for the frequent changes, the water from the earthenware pots. After sun-rise the water should be protected from the direct rays of the sun.

T. P. S. N.

PROCEEDINGS OF THE SOCIETY.

Monthly Meeting held at the Masonic Hall, Mount Road,

Friday, 1st July, 1898.

Mr. F. Dunsterville, *Vice-President,* in the chair.

Pictures for the Month.

Pictures of "A Bazaar Scene" were shown by the Elayah Raja of Travancore and Surgeon-Major-General Sibthorpe.

New Member.

Mr. H. H. O'Farrell, I. C. S., proposed by the President, seconded by Surgeon-Major Carruthers, was elected unanimously.

Miscellaneous.

Two extra pictures were exhibited by the Elayah Raja of Travancore. One was entitled "Divided Duties," the other being a photograph of the temple mentioned in the Elayah Raja's letter published in the June *Journal.*

Next Meeting.

The next meeting of the Society will be held on Friday, 2nd September. Members are requested to bring anything of interest to the meeting.

The Picture Subject for next month is "A Landscape," that for October is "An Architectural Study."

EXTRACTS.

MOUNTING.[1]

By Roland C. Whiting.

A precious gem, no matter how well it is cut and polished, loses its apparent quality if it is not handsomely set and suitably mounted. Now, the mount is to the picture what the setting is to the gem. It is, therefore, required that great attention be given to this subject, for no matter how well a picture is composed and finished, it will not show to advantage, and may appear to its detriment, upon an unsuitable mount. I am not going to speak upon technical details, because perfection in manipulation is, of course, necessary in all photographic work, but upon the artistic side of the question I feel that we are not sufficiently well educated, and that often we submit work which is in the worst possible taste.

Before we proceed to the operation of mounting we must first decide an important and often neglected point. We must first of all answer the question as to whether our work is to be looked at simply as a picture, a thing to be regarded for itself alone, or whether it is to be part of the decorative scheme of the wall upon which it is to be hung. This at first seems an unimportant point, but it is really a very great question. It means that if it is to be considered as a picture, its surroundings must be adapted to suit it best, but if, on the other hand, it is to be looked on as a decorative effect, then it must itself be constructed to harmonize with its surroundings. In either case the mount, together with its frame, must be made the connecting link between the two. I think you will agree with me that if the mounting was always looked on in this light some very different results would be presented to the world.

Of the ordinary professional cabinet mount I have nothing to say, as at best it is only a vehicle on which to carry the print until it is placed in the album or other receptacle, but all other work requires a great deal of consideration. At the commencement must be decided the size of mount to be employed. This, though largely a matter of taste, must be selected with discretion. It must be remembered that if the picture contains a mass of small work, or does not contain large masses of light and shade broadly displayed, a very large mount would caus· it to look very insignificant. On the other hand, the larger the mount the less the eye is troubled with the wall around it, but a large mount tends to give prominence to the margins of the print. Should the work contain small masses of light and shade, or be weak in construction, a narrow mount will be found the most in keeping. I do not, however, advise the extreme in either direction, as I consider both to be only evidence of affectation.

I suppose this is the best moment to discuss the merits of the mounts as regards width of margin. If decorative effect has not to be considered it will be found that its effect upon the picture is very considerable; when the picture very much approaches the equilateral rectangular form, the addition of a little extra width of mount at the ends, or at the top and bottom, will increase the apparent length or width of the picture. In all cases the increased size of mount should be in keeping with the dimensions of the print. Thus if the picture be longer than wide the largest portion of the mount should be at the ends, and, of course, the reverse applies to it when the greatest dimension of the picture is from top to bottom. I think, however, that in general it will be found to be the most pleasing and artistic to give equal width at the top and sides, whilst the bottom should be half as wide again as either the top or side. Of course, when decorative effect only is aimed at, a much greater license can be taken.

The depth and tone and the color of the mounts is a very important consideration either in pictorial or in decorative appearance. It will be found both in theory and in practice that that depth of tone which comes about midway between the highest lights and the deepest shadows in the picture will give the greatest value to the whole effect, but it will be evident to every person that considerable power is herein placed in the artist's hands, for where it is desired to emphasize any particular note of half-tone, the depth of the mount will greatly assist in so doing, but time will not suffice to lay the whole subject before you.

As for color, a great deal might be said, for it plays a most important part in the decorative scheme, whilst in pictorial effect the result is none the less seen. For decorative work great range of color is available, but if the color chosen is not of the same hue as the picture, it should be complementary to it, or of such a tint as wile produce the best harmony between the picture and the wall. Thus, to give an example, suppose the picture chosen is in red chalk carbon, and it is to hang upon a wall whose predominating hue is green, I should mount the picture on a buff-colored mount, unless I desired to emphasize the color of the print, in which case I should choose a green mount of such a tone as would produce the effect without making itself too prominent.

A perfect knowledge of color harmony is requisite in mounting pictures for decorative purposes, and on this point I do not wish to act as an authority.

1 Second part of a paper read before the Brixton and Clapham Camera Club.

In mounting for pictorial effect, white-toned, or gray, are tints which are safe to use and have each their special advantages. If the print has a tendency to hardness it should only be mounted on a pure white board, because a toned mount has the effect of cooling the whites of the picture, which increases the apparent hardness. It will, therefore, be properly inferred that a toned board will best suit a somewhat weak print. Also a deeply toned board is good to use with a print whose whites are yellowed with age. Of the grey board much may be said, since if the proper depth is chosen the picture is sure to be shown to the greatest advantage.

The depth of tone should be that which is just below the highest lights in the print. I do not care, as a rule, for dark-grey mounts, but the kind I have described are really useful and serviceable. All other mounts of glaring and gaudy colors, and all fancy and superabundantly ornamented mounts, are to be avoided for pictoral effect. They only succeed in ruining the appearance of the picture, and may be taken as evidence of a painful want of good taste and artistic refinement.

The results of some of these experiments have been shown during the past, and as experiments only, all well and good, but I do hope that some of these experiments will not be performed again, at least in public.

Not very long ago it was a very frequent thing to bind the edges of the cut-out mount with gold. This for decorative effect may be all very well, but as a rule it will be found that the plain edge is much more effective and artistic (where a gold edge is desirable it is much better, although more expensive, to have it gilded with gold-leaf). It may be necessary, aud is sometimes very beneficial, to tone down the whiteness of the edge with a wash of color, in cases where the intensity of the edge clashes with the lights of the picture.

There is one kind of mount which is very much in vogue at the present day; it is a very effective and refined style of mounting, and is very superior in appearance, but is not compatible with artistic taste.

I refer to the plate-sunk India-tint mount, and my remarks anent its artistic qualities may cause some surprise, but I think I can clearly show that what I say is true. The plate-sunk India-tint mount does not belong to photography at all, but is the acknowledged property of the engraver. The tint he has invented himself, and the plate mark is inseparable from the process of the printing. It is practically a defect in the technicalities of his work, but his artistic instinct has led him to take advantage of the defect and turn it to true artistic account. Sometimes the water-color artist has availed himself of the tint, but never to my knowledge has he used the plate-mark in any of his productions—why? Because the plate impressing does not enter into any of his proceedings. It is for this reason that it is entirely out of place in a photograph, for in no part of the work is a plate used in such a way as to cause an impression. It is meaningless, and therefore inartistic.

It may be urged that if the water-color artist may use the tint judiciously, so may the photographer. Just so; but it must be remembered that when a painting is made on it the color of the tint prevades the whole picture, as in an engraving, and that tint produces a mellowness of effect which is very pleasing, but in a photograph the tint is only around the edge, and therefore at least, is only a weak imitation of the engraving. If this tint is necessary, a toned board should be used instead. I do not feel that potographers are justified in trying to emulate the works of other artists, who make a speciality of other branches of art. Surely a photograph in itself is a most beautiful thing, and I see no reason why the fact that it is a photograph should be disguised.

It is such practices as these which lower our art in the eyes of painter-artists, and bring ridicule from all who profess good taste. Rather let us emphasize the fact that our pictures are photographs, and then the beauty which they possess will receive the recognition which it deserves. A pale-grey mount with a white paste-down centre is a very effective form of mounting if the picture is made on white paper. It is truly a photographic mount, and I do not think it has ever been used for any other purpose.—*Wilson's Photographic Magazine.*

The Photography of the Recent Total Solar Eclipse.

By W. H. M. Christie, Esq., C.B., Astronomer Royal.

The subject which I am bringing before you to-night falls somewhat outside the range of questions in which photographers generally are interested, and the results which I have to show cannot compete with the beautiful photography to be seen in this Exhibition. But the methods by which photographs have been obtained of that wonderful appendage of the sun, known as the corona, which shines forth during the brief moments of obscuration of the sun's dazzling brilliance during a total eclipse, have special interest for photographers as well as for astronomers on account of the special optical and mechanical arrangements required, and this must be my excuse for bringing the subject before the Royal Photographic Society.

Perhaps I had better begin by explaining how it is that a total eclipse of the sun is considered of so much importance by astronomers, as distinguished from a partial eclipse such as many here present may have seen repeatedly. In a total eclipse of the sun, the moon comes directly between the observer on the earth and the sun, and obscures his disc, cutting off that dazzling light which prevents our seeing the surroundings immediately encircling the sun, especially the solar corona. I will now show you on the screen a diagrammatic representation of an eclipse of the sun. (Shown.)

This is a rather rude representation of the phenomenon, but it may serve to convey an idea of what happens. Here is the sun, and the moon is interposed in a direct line between it and the earth, and it throws a shadow which converges to nearly a point, so as to form a narrow area on the earth. That, as the earth turns round, moves along from one point to another, and you see that the eclipse in the diagram has passed from Spain, through Italy, to Greece and Thessaly, and other eclipses of course traverse different tracts of the earth's surface. In the recent eclipse the path of the moon's shadow, originating in the west of Equatorial Africa, passed across Africa through uninhabited and inaccessible regions, and then traversed the central part of India, passing away into the Chinese Empire, where, again, the observers were unable to occupy any stations. In India, however, there was a most favourable opportunity of observing the eclipse, and, India being a British dependency, it was very natural that English astronomers should devote all their efforts to occupying as many stations as they could on the line of the eclipse. From the nature of the case, the length of the total obscuration—on which the value of an eclipse depends—was greatest in the western part of India, so the observers arranged to distribute themselves along the track of the eclipse, keeping as far

as they could to the west of India, and avoiding the eastern parts where the duration would have been so short as to materially diminish the chances of getting successful or valuable results. The arrangements of the observers were very much hampered by the outbreak of plague, which unfortunately occurred in India about that time, and the party to which I belonged—consisting of Professor Turner and myself—had to change our location from the western part of India, south of Poona, to the centre of India, where the duration of totality was not so long.

I will not detain you this evening by attempting to explain the exact location of the different observers; suffice it to say that I think every available point on the track of totality, where the duration was sufficiently long, was fully occupied by observers who were well provided and were very keen to take advantage of all opportunities which the excellent climate of India, at that time of year, afforded. Fortunately, we had almost a certainty of fine weather. The Meteorological Reporter, who may be considered to be a very cautious personage, is said to have calculated our chances as 25 to 1 in our favour; and it happened that on the day of the eclipse all the observing parties were favoured with a cloudless sky, and were able to collect very valuable results.

I must here acknowledge the very admirable arrangements which were made by the Government of India and by the Railway Companies, and, in fact, by all concerned, and also by the British Admiralty, for the successful working of the various observing parties. Without such very liberal help, especially on the part of the Government, it would have been quite impracticable for the observing parties to have carried out their observations with the success which attended them. In many cases, and in particular at the station where I was observing, extensive camps had to be formed. I must ask the audience to excuse me if, in this account of the eclipse, I seem to be rather egotistical in alluding somewhat unduly to what happened at my own station; but when one is in the jungle of Central India, one is forced to realize what a big country it is, and one is cut off to a considerable extent from communication with fellow-observers, so that I am able to speak more clearly and definitely of the results obtained at my own station than of those secured by other parties. At the same time, I will endeavour to present to you to-night some of the results obtained at other stations.

I will now show you what a total eclipse of the sun appears to be to those who are watching it.

[Here were exhibited lantern slides from photographs taken at the beginning of the eclipse, and onward through the period of totality until the conclusion of the phenomenon.]

From the photograph showing the effect of totality, I think you will be able to appreciate the great distinction there is between partial eclipses and total eclipses. When the whole of the sun is cut off we see this wonderful corona which surrounds the sun, and also the prominences on the limb, and we are able to obtain results which cannot be obtained at any other time. Unfortunately, the duration of the obscuration of the sun is so short that we have to make special arrangements to utilize every moment of it. In this case the duration at the station I occupied was only one and three-quarter minutes, and we were extremely anxious to take as many photographs as we possibly could in the time.

I now pass on to the arrangements which were made at the different stations, and in the first place I will show you a portion of our camp at Sahdol, which was erected by the liberality of the Government of India, and with the kind assistance of the Surveyor-General. To give an idea of the difficulty of providing for large parties such as went out to observe the eclipse, I may say that the number of tents required in our camp was more than fifty. The photograph includes an elephant provided by the native rajah to take us out for rides, but I am sorry to say we had not much time to spare for the utilization of his services.

The results obtained in this eclipse may be classified under several different heads; to-night I am, unfortunately, rather limited for time, and shall only be able to deal with the first of these heads, but I will take this opportunity of alluding to the very valuable work which has been done in the other departments. The classification may be stated as follows:

(1) Photographs of the corona, of which I hope to show you some specimens; (2) Spectroscopic observations; (3) Polariscopic observations; (4) Photographs of the partial phase, for determining the position of the moon; and (5) Miscellaneous observations, such as photographs with cinematograph; no specimen of the latter has been brought back, as far as we know. I propose merely to give a slight sketch of what has been done as regards photographing the corona.

The special feature of this eclipse was the number and variety of the instruments which were utilized to obtain large-scale photographs of the corona; and when I say large scale, I mean on a scale which gives about four inches to the sun's diameter, and which implies a focal length of forty feet. That, of course, would be considered by photographers ordinarily as a very extreme length, and there were great difficulties in mounting telescopes of such proportions. I will show you shortly some of these instruments. Professor Campbell, Dr. Copeland, and Mr. Michie Smith had each a telescope forty feet in length, the form of mounting being different in each case. I had an instrument which was designed to give photographs of the corona on the same scale; but in order to reduce it to manageable dimensions I used a photographic object-glass—which had been presented by Sir Henry Thompson to the Greenwich Observatory—of 9 inches aperture and 8 feet 6 inches focal length; and the image formed by this object-glass was enlarged by a concave lens—one of Dallmeyer's telephoto-concave combinations. This is what has been known to astronomers for many years as the Barlow lens, but it has recently been introduced to photographers as what is called a "telephoto: combination," and has been used with great effect by them. The slide on the screen will, to some extent, show the arrangement of my instrument. The telescope was pointing downwards, mounted on two brick piers, to a mirror mounted as a cœlostat. My son was placed in front of the object-glass to give the exposures, which were arranged to vary from two-thirds of a second to twenty seconds, while I changed the plates. I had two assistants—one to hand me a slide containing an unexposed plate, and the other to take from me a slide with an exposed plate. It was necessary to have a number of assistants in this case, because I was anxious to obtain seven photographs in the space of one and three-quarter minutes, with exposures ranging from two-thirds of a second to twenty seconds, and the whole total of exposure left only some five or six seconds for changing plates. We had also two assistants who counted time for us, so that we knew exactly where we were and could arrange not to be caught by the sun reappearing before our last plate had been exposed. I am glad to say my

last photograph was taken fifteen seconds before the sun reappeared, so that I had some time after that to admire the beauty of the corona.

One of our anxieties on this occasion arose from the circumstance that the natives of India looked at a solar eclipse from a different point of view from the astronomers of Europe and America. They regarded it as a very solemn religious function, in which it was of very great importance to their future welfare to say as many prayers as they could, and especially during totality; and we were somewhat nervous as to whether our native assistants —who were high-caste Brahmins—might not fall down on their knees and begin to say their prayers, instead of attending to the duties they were told off to perform. I am very glad, however, to bear testimony that they performed their duties most satisfactorily and managed to reconcile duty and religion. One of them, at any rate, after counting the seconds regularly for the first minute of totality, gave up the count to a companion, and offered up a prayer during the remaining forty-five seconds, by which his conscience was greatly comforted. I mention this as one of the things that cause some anxiety to observers during an eclipse, and to show that native ideas and native prejudices must be reckoned with.

The next slide shows another telephoto: combination which we called the double tube. The object of this was to take photographs on a scale not quite so large as those taken with the 40 feet telescope, but still a very considerable scale, by a combination of a concave lens with an object-glass, and to get photographs on a smaller scale which would show great extension of the corona. Two object-glasses were mounted in one tube parallel to each other, and the light was reflected from the mirror into them. This instrument at my station was worked very successfully by Professor Turner, who, in the photograph, is shown adjusting his cœlostat mirror; and at another station Lieutenant Lenox Conyngham, under Captain Hill's instruction, got very successful results—which I shall be able to show you—with a similar tube.

Another important feature in this eclipse was the use of what I have already mentioned as a cœlostat. I cannot attempt, in the time at my disposal, to go deeply into the construction of this instrument, but will merely explain that it consists of a flat mirror mounted on a polar axis, *i.e.*, an axis parallel to the earth's pole, and which turns round at half the rotation of the earth—that is to say, once in forty-eight hours. The result is, that the ray, reflected from this from a star moving round once in twenty-four hours, apparently through the earth's rotation, is reflected in a fixed direction, and if the viewing telescope is pointed in that direction, it receives an image of the star or, in this case, of the sun or of the corona. The use of this instrument very greatly simplified the mounting of these large telescopes. I had to deal with a telescope 11 feet in length, which it would have been quite impracticable to mount; for it would have involved taking out a very heavy stand, but in this way I was able to work very conveniently, and by pointing the telescope slightly downward my arrangements were made as advantageous as possible. Professor Turner and Captain Hills also found the great advantage of this form of instrument, which, I may mention, was invented by M. Lippmann, who is well-known to photographers, in 1895, and was first used successfully in this eclipse. It was unfortunate that in the eclipse of 1896 these instruments, which were taken to Norway and to Japan, were not used, because the state of the sky prevented any successful observations; but, at any rate, we have to congratulate ourselves that they have been successfully utilised in the eclipse of 1898, and that their usefulness in this connection has been fully demonstrated.

Amongst the refinements which are required by astronomers to secure valuable results during an eclipse, and which were used in connection with this cœlostat as well as with other instruments, is a very accurate clock-work to make the telescope—or the camera, as photographers would prefer to call it—travel exactly at the same rate as the sun, and that is a matter of some difficulty. It is often the case that photographers take photographs during an eclipse with ordinary cameras, and they find that the motion of the sun has been so great that it has spoiled their definition. I am sorry to say that my clock caught a chill from the fall of temperature which occurred during the eclipse—some eight degrees, and that gave me great anxiety; the observers felt the chill, too, but they were able to counteract the ill effects by putting on their coats. In the case of the clock, I had difficulty in getting it to go regularly and it gave me considerable anxiety up to the last moment; I am thankful to say, however, that the effects do not seem to be shown on the photographs which I obtained.

Here is a view of the 40 feet telescope which was used by Professor Michie Smith at our camp. The tube is 40 feet long, and as it had to point to the pole—a mirror being fixed to reflect light into the telescope—he found it necessary to build a small hill, which was erected by coolies who carried small baskets and trays of earth and formed a mound, completing it only just before the eclipse.

This is Professor Campbell's 40 feet telescope showing his method of mounting it. He adopted the plan of pointing it directly to the position which would be occupied by the sun during totality, and then he had a plate which moved by clockwork, his telescope remaining fixed. The same instrument was taken to Japan to observe the eclipse there, and a rock was found exactly in the right position for mounting it; but in India there was no rock available, and so Mr. Campbell had to erect a timber framework, largely with his own hands, upon which to mount his telescope.

Another new departure in the way of photographing an eclipse was made by Professor Burckhalter. His idea was that, as is well known to photographers, the intensity of the solar corona close to the sun so obscures details that, if a proper exposure is given for the outer portion, the inner part cannot be well seen; whereas, if an exposure is given suited to the inner part the outer part is not registered at all. Professor Burckhalter arranged to have a metal screen moving in front of his plate, with a slit of variable width increasing from the sun's edge out to the edge of the field; so that he gave a long exposure for the faint parts of the corona, and a correspondingly short exposure for the inner parts, his object being to give an exposure suited equally to all parts of the corona. I am sorry to say that I have not seen his photographs, but I gather from him that he has been very fairly successful, though he found that the range of exposure was much greater than he had calculated upon.

Another interesting instrument was that used by Mr. Thwaites—one of Cooke's object-glasses adapted for visual observation and also for photography.

[Photographs taken with the various instruments, showing the corona at different periods and with varying exposures, were here exhibited.]

It may here be appropriate to mention that, owing to the optical combination which I used, the field of view

was limited by the size of the concave lens, and that being only 3 inches in diameter—the largest, I believe, at present made in that form—I was limited to a field of about 10 inches in diameter, that is to say, two and a half solar diameters; and I found that the corona was sufficiently bright to impress itself right up to the edge of the field, and that I could have got very much further if I had had a larger lens and larger plates. That, I think, points to a useful extension in future eclipses; and it is one satisfaction in having an eclipse, such as this, thoroughly well observed, that we learn so much which may help us in the future, and enable us to make advances for the next eclipse.

I would point out, here, as one of the results which appear to come out from the photographs which I have taken, and also, I have no doubt, from those taken by others, that there seems to be an intimate cannection between the prominences which are seen, and the rays which go out from the corona. I am afraid that on the screen these things cannot be seen very well, but there is a remarkable ray which starts with three streamers from one of the prominences, and the streamers unite to form one component of a double ray coming out from the sun's limb, and extending to a very considerable distance. There are also other streamers, connected with the prominences, which are not shown in the particular photograph now on the screen, but which can be seen by examining the whole series of photographs taken throughout totality.

The next slides represent some of the results obtained by Lieutenant Lenox Conyngham, under the direction of Captain Hills, with the Dallmeyer lens, which show great extension of the corona in different directions. Then I pass on to some interesting and valuable photographs obtained by Mr. Thwaites with his Cooke triple object-glass; they are interesting not only for themselves, but also because this was, so far as I know, the first application of that form of object-glass to the photography of an eclipse, and I think Mr. Thwaites is to be congratulated upon the result of his experiment. Next we have a slide from a drawing which was carefully made by Mr. Wesley, who has given great attention to the study of photographs of the corona, from a photograph taken by Mrs. Maunder in Central India with a small lens of $1\frac{1}{2}$ inches aperture and 9 inches focal length, giving a very small image of the sun, but showing remarkable extension of the corona. In one corner will be seen the planet Venus, which was at a distance of six degrees from the sun, *i.e.*, about twelve solar diameters, and you will observe that there is one ray extending to about half the distance of Venus from the sun; it is a very remarkable feat to photograph such an extension of the corona, and I think I may say that no such extension has ever been photographed before this occasion.

The following slide shows another very interesting and remarkable feat of photography, the photographing of the corona after totality was over. This was also taken by Mrs. Maunder, who is, I am sure, to be heartily congratulated on her success in observing this eclipse. The picture is in one place reversed owing to the extreme actinic action of the sun; but round the moon's limb the solar corona will be seen to be distinctly traced, not so distinctly as during the eclipse, of course, as the exposure was only $1\frac{1}{2}$ seconds, but it is a very interesting fact to establish that the corona could be photographed some time after the sun's disc had reappeared. I would take this opportunity of pointing out the value of the photographic doublet in cases where it is desirable to obtain great extension of the corona and great light-gathering power. Mrs. Maunder has succeeded on this occasion by the use of the photographic doublet in combination with a backed plate, the Sandell triple-coated plate, which prevented that great halation which has been the cause of so much difficulty to those who have photographed eclipses before.

Time will not allow me to do more than allude to the very important spectroscopic and polariscopic observations which promise to greatly advance our knowledge of the constitution of the rarefied matter surrounding the sun and extending to enormous distances from his surface. It may suffice to say that here, again, photography has been applied most successfully in the recent eclipse. I trust that the sketch I have given you, imperfect though it is, will give some idea of the importance to astronomers of the application of photography in total eclipses of the sun, and of the refined optical and mechanical apparatus which is required to secure the best results. At the same time, I have endeavoured to indicate where improvements may be made in view of the experience gained in this eclipse. Astronomers will have to wait two years until the total eclipse which will be visible in May, 1900, in Florida and Spain, will afford them a fresh opportunity of applying to the problem of the sun's corona the means of attack which they are now perfecting.

A vote of thanks was passed to the Astronomer Royal. —*Photographic Journal.**

MONTHLY COMPETITION.

JULY.

Subject:—"A BIRD."

H. S.—Four pictures of Peafowl. All of these are fairly good and equal in quality; the prints are somewhat flat and might be improved by rather shorter exposure of the bromide paper. They are the best prints shown at this meeting.

R. V.—Six small pictures of birds of sorts. Not up to R. V.'s usual standard—they are apparently snap-shots in a small hand-camera.

AUGUST.

Subject:—"A BAZAAR SCENE."

R. V.—"Coonoor Shandy." The print shows an unpleasant tone and is flat: the sky is much marked with mildew, probably from the negative.

C. S.—Three bazaar scenes in Madras—one is over-exposed, but the remaining two are good bright prints which would take a lot of beating: the one marked No. 2 is the best print shown.

* A lecture delivered at the Royal Photographic Society's Soirée at the Crystal Palace, on Tuesday, 10th May, 1898.

COMPETITIONS.

(Open only to Members of the Society.)

SUBJECT FOR MONTHLY COMPETITIONS IN { SEPTEMBER.—*A Landscape.* OCTOBER—*An Architectural Study.*

SUBJECT FOR SPECIAL COMPETITION IN JANUARY "*A Figure Subject.*"

RULES.

1. *Two Special Competitions shall be held, in each year, in addition to a monthly competition.*

2. *The Committee shall select the subjects for the Special Competitions, and notice of the selected subjects shall be announced in the Society's Journal in February and in July of each year. The subject for each monthly competition shall be selected two months in advance by the members present at the monthly meeting, and shall be notified in the next issue of the Society's Journal.*

3. *Pictures, &c., competing for Prizes at the Special Competitions must reach the Secretary by the last day of January and of May, and those competing at the monthly competitions must arrive in time to be shown at the monthly meeting.*

4. *Prizes will consist of Silver and of Bronze Medals, and of Certificates of Merit.*

5. *Not more than one Silver and one Bronze Medal shall be given at each Special Competition, and one Silver and one Bronze Medal may also be given at these competitions for excellence in copying, enlarging, lantern slides, or any other special branch of photography. One Silver and one Bronze Medal shall be awarded half-yearly to the exhibitors who obtain the highest and the next highest marks respectively at the monthly competitions. The number of Certificates of Merit granted at each competition is left to the discretion of the Judges.*

6. *A member may receive only one Silver and one Bronze Medal in the special, and one Silver and one Bronze Medal in the monthly, competitions, held during the same year; but should a member who has been adjudged a medal be disqualified under this rule from receiving it, he shall be given a Special Certificate instead, marked 1st or 2nd Prize.*

7. *A Special Committee of three members shall be appointed Judges by the General Committee to carry out, subject to these Rules, all arrangements connected with the competitions.*

8. *The Special Committee shall be appointed after the Annual General Meeting in January, and shall hold office for one year, and any vacancy occurring will be filled up by the General Committee.*

9. *The Special Committee shall decide upon the merits of the pictures, &c., sent in for competition, and their decision shall be final. The system of judging the monthly exhibits shall be by awarding marks, a record of which shall be kept by the Judges, the marks being totalled and the results declared half-yearly. For this purpose, only the three highest marks awarded at each competition to each competitor shall be recorded, but not the aggregate marks gained by each for a number of exhibits.*

10. *If any member of the Special Committee is a competitor, the General Committee shall appoint a non-competing member to act as Judge at that competition instead of the competing member.*

11. *No exhibit shall compete twice, but pictures, &c., already exhibited elsewhere, may be sent in for the competitions.*

12. *Lantern slides sent in for competition shall be in sets of six, and shall be judged upon the screen.*

13. *The Special Committee shall not award any Prizes or Certificates, unless they consider the exhibits to be worthy of such distinction.*

14. *Each competing exhibit shall be the entire work of the exhibitor, and when sent in shall be accompanied by a Certificate in the annexed form:—*

> *"The (1) Arranging, (2) Exposing, (3) Developing, (4) Retouching (if any), (5) Printing and (6) Trimming and Mounting were done by me without assistance."*
>
> ______________________
>
> *Member, A. P. Socy. of Madras.*

15. *All pictures for the Special Competitions shall be mounted, and may, at the competitor's option, be framed but not glazed. Those for the monthly competitions need not be mounted, but should be trimmed.*

16. *Each competing picture should have a name or title, which should indicate the nature of the subject.*

17. *No competitor shall be allowed to send in more than six pictures to compete for any particular Prize, but the same member may compete in all branches specified in Rule 5.*

18. *The pictures gaining 1st and 2nd Prizes at the half-yearly competitions, and the best pictures sent for the monthly competitions, shall, when practicable, be reproduced in the Society's Journal.*

19. *To give up-country members an opportunity of seeing the competing pictures at the special competitions, the pictures shall be circulated to all members of the Society, not residing in Madras, who apply to see them. As this arrangement can only be carried out by the cordial co-operation of the members themselves, they are expected to forward the pictures without delay to the next member, and to send one of the accompanying post-cards to the Secretary, so that by this means the progress of the pictures may be traced.*

List of Members whose Dark Rooms are available for use by Members of the Madras Amateur Photographic Society.

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NOTICES.

Members of the Madras Amateur Photographic Society are permitted to use this column free of charge for two insertions of each advertisement—all subsequent insertions of the same being chargeable at 2 annas a line. When an advertisement becomes liable to this charge, it will not be inserted unless a postal order or stamps to the value of the charge are previously sent, addressed to Graves, Cookson and Co., Scottish Press, Mount Road Branch, Madras. Advertisements received up to the 5th of each month will be inserted in the next issue of the Journal; those received after this date will be held over for the subsequent issue.

Subscribers, and others who are not regular dealers may make use of this column for advertisements by paying at the rate of 3 annas a line.

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Entrance Fee, Rs. 5.—Annual Subscription *for Resident Members, Rs. 15; for Up-country Members, Rs. 12. Members joining after 30th June pay Half-year's Subscription.*

Candidates for Election—*should be proposed by one member and seconded by another; and they will be ballotted for at the following meeting.*

Ordinary Meetings—*of the Society are held on the first Friday of each month at 6 p.m. and members are at liberty to introduce visitors.*

Letters to the Editor—*should be addressed care of Messrs. Graves, Cookson & Co., Scottish Press, Mount Road Branch, Madras.*

Letters to the Honorary Secretary—*should be addressed to S. Jackson, Esq., care of Messrs. Binny & Co., Madras.*

Letters to the Honorary Treasurer and Remittances—*should be addressed V. G. Lynn, Esq., care of Messrs. Best & Co., Madras.*

Communications regarding the issue of the Journal—*should be addressed to the Publishers.*

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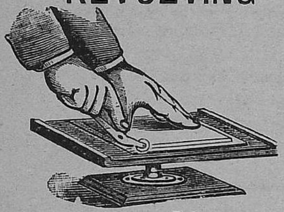

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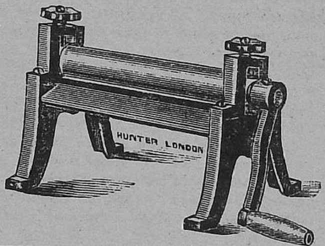

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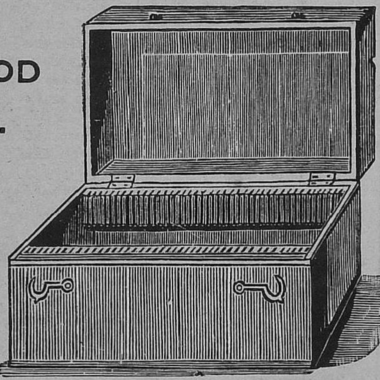

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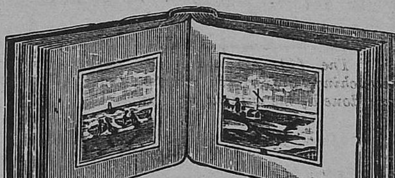

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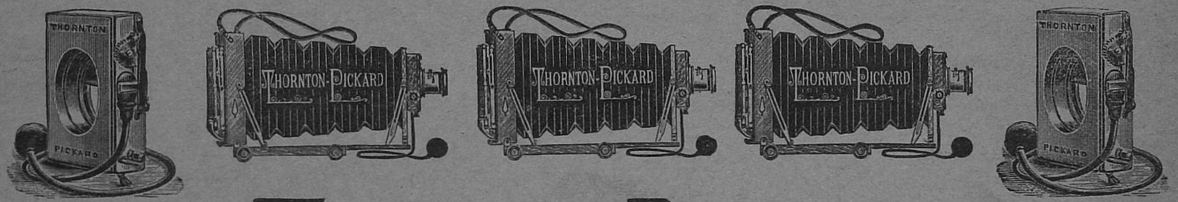

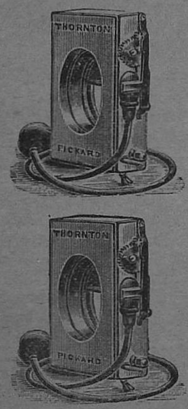

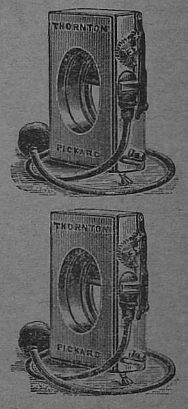

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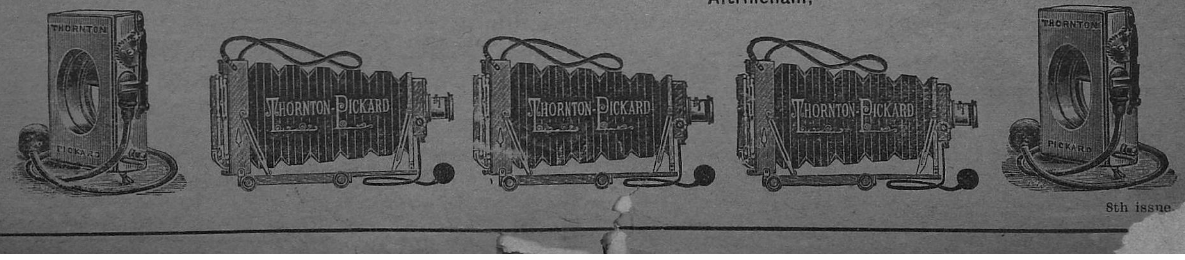

8th issue